LOGISTIC TRANSPORT FUEL SYSTEM

The fundamental considerations in the design of this fuel system are:

a. No interruption of engine fuel flow

b. System independence so that a failure of one engine's system will not affect that of any other

c. Maintenance of fuel flow and freedom of tank selection without reliance on accessory power

d. Minimum fuel CG shift and maximum wing structure protection

Consideration of these factors dictated the configuration shown in the diagram.

The system consists of four main and two auxiliary tanks connected in a modified manifold arrangement. The tanks are of integral wing construction with fuel capacities as shown.

Maximum wing bending moment protection is achieved by the utilization of the available wing tankage volume through the nacelle areas. This configuration results in a substantial structural weight saving. The safety measures provided to permit the installation are discussed in the section covering nacelle ventilation and cooling.

Fuel flow from the tanks to the engines is controlled entirely by mechanically actuated selector and shut-off valves, thus eliminating any reliance on accessory power for satisfactory operation of essential valves. Electrically actuated valves are used only to control flow into the tanks as required for central point fueling and transfer operations.

Each engine is equipped with an auxiliary engine driven booster pump. This pump draws fuel from the tanks and delivers it at the required inlet pressure to the main engine fuel pumps. With this installation tank booster pumps will be required only during climb and for a short time after reaching the cruise altitude. Reliance on accessory power again is minimized and is completely eliminated for the remainder of the flight.